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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/360,453	07/26/1999	HIROSHI SUGITANI	35.G1250DIV.	4210

5514 7590 10/02/2003

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EXAMINER

TUGBANG, ANTHONY D

ART UNIT PAPER NUMBER

3729

DATE MAILED: 10/02/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/360,453

Applicant(s)

SUGITANI ET AL.

Examiner

A. Dexter Tugbang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 08/281,006.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/24/03 has been entered.

Drawings

2. The replacement drawings for Figures 1-2 were received on 12/6/02. These drawings have been approved by the examiner.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claims 10 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claim 10, the phrase of "said convex portion" (line 2) lacks positive antecedent basis. Similar problems occur in Claim 14.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 7-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Sugitani 4,412,224.

Sugitani discloses a method of manufacturing an ink jet head comprising: providing a plurality of recessed portions (recessed areas of dielectric thin film 3 on either side of heating elements 2 in Fig. 1) in a surface on a substrate 1 such that the recessed portions have a bottom surface located at a position that is lower than a position of a heat acting surface (top surface areas of dielectric thin film 3 directly above heating elements 2 in Fig. 1); and fitting the recessed portions to flow passage walls 7 of a ceiling member 9 by applying a force to the ceiling member along a direction in which the energy generating elements 2 are arranged, thereby aligning the flow passages 7 with the energy generating elements (see Fig. 8 and col. 3, lines 15+), which meets all of the limitations of the claimed manufacturing method.

Regarding Claim 8, Sugitani further teaches providing a raised convex portion of material (conductive film 4 in Fig. 2) on a surface of the substrate 1 at an end portion thereof, where an area of the ceiling member 9 does not make direct contact with the convex portion (see Fig. 8).

Regarding Claim 9, Sugitani further teaches providing the ceiling member 9 with a dummy nozzle portion 11 (in Fig. 9).

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Regarding Claim 10, as best understood, the claimed "convex portion" is read as the adhesive additive of an epoxy discussed by Sugitani at col. 3, lines 21-24.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugitani in view of Wiech 4,722,824.

Sugitani teaches the claimed manufacturing method as relied upon above. It is noted that Sugitani satisfies the limitations of dependent Claims 12-14 inasmuch as these limitations are the exact same as dependent Claims 8-10, respectively.

Regarding Claims 11-14, Sugitani teaches substantially all of the limitations of the claimed manufacturing method except vibrating the substrate.

Wiech teaches an assembly process including a substrate 3 which is bonded to a ceiling member 1 having preformed wall portions 5 attached to the ceiling member and where these wall portions are attached to recessed portions 9 (see Fig. 1). Wiech teaches that his assembly process vibrates the substrate 3 (see col. 2, lines 5-10) to bond and assemble all of the above together for the benefits of bonding and assembling members together of different shapes having complex geometries for a more economical manufacturing process (see col. 1, lines 36-42).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Sugitani by vibrating the substrate, as taught by the assembly process of Wiech, to positively provide a more economical manufacturing process of assembling an ink jet head.

Regarding Claim 15, it would have been an obvious matter of design choice to choose any desired amplitude of vibrations since applicants have not disclosed that the claimed amplitude having a depth smaller than one of the recessed portions, solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the amplitude of vibrations taught by Wiech.

Response to Arguments

9. Applicant's arguments with respect to claims 7-15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Dexter Tugbang whose telephone number is 703-308-7599.

The examiner can normally be reached on Monday - Friday 7:00 am - 3:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1789. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.



A. Dexter Tugbang
Primary Examiner
Art Unit 3729

September 26, 2003